According to an eleventh aspect of the present invention, there is provided a TV tuner wherein the local oscillator outputs an oscillation signal having a frequency band of at least 767 to 473 MHz, and wherein the dividing rate of the first programmable divider can be changed to at least 1, 1/3 and 1/6.

According to a twelfth aspect of the present invention, there is provided a TV tuner comprising a third programmable divider for receiving the oscillation signal of the local oscillator and dividing the oscillation signal and a fourth mixer for mixing the received TV signal and the output of the third programmable divider and frequency converting the received TV signal into an intermediate-frequency signal having a predetermined frequency, wherein the local oscillator outputs an oscillation signal having a frequency band of at least 847 to 505 MHz, wherein the dividing rate of the second programmable divider is 1/3, and wherein the dividing rate of the third programmable divider is 1/5.

According to a thirteenth aspect of the present invention, there is provided a TV tuner comprising a third programmable divider for receiving the oscillation signal of the local oscillator and dividing the oscillation signal and a fourth mixer for mixing the received TV signal and the output of the third programmable divider and frequency converting the received TV signal into an intermediate-frequency signal having a predetermined

frequency, wherein the local oscillator outputs an oscillation signal having a frequency band of at least 803 to 473 MHz, wherein the dividing rate of the second programmable divider is 1/3, and wherein the dividing rate of the third programmable divider is 1/9.

According to a fourteenth aspect of the present invention, there is provided a TV tuner comprising a third programmable divider for receiving the oscillation signal of the local oscillator and dividing the oscillation signal and a fourth mixer for mixing the received TV signal and the output of the third programmable divider and frequency converting the received TV signal into an intermediate-frequency signal having a predetermined frequency, wherein the local oscillator outputs an oscillation signal having a frequency band of at least 824 to 530 MHz, wherein the dividing rate of the second programmable divider is 1/3, and wherein the dividing rate of the third programmable divider is 1/4.

According to a fifteenth aspect of the present invention, there is provided a TV tuner comprising a third programmable divider for receiving the oscillation signal of the local oscillator and dividing the oscillation signal and a fourth mixer for mixing the received TV signal and the output of the third programmable divider and frequency converting the received TV signal into an intermediate-frequency signal having a predetermined frequency, wherein the local oscillator outputs an

oscillation signal having a frequency band of at least 767 to 473 MHz, wherein the dividing rate of the second programmable divider is 1/3, and wherein the dividing rate of the third programmable divider is 1/6.

The other objects and advantages of the present invention will become obvious from the following description.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a circuit diagram of a TV signal receiving tuner according to the present invention;

Fig. 2 is a circuit diagram showing another embodiment of a TV signal receiving tuner according to the present invention; and

Fig. 3 is a circuit diagram of a prior art TV signal receiving tuner.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

The tuner of the present invention will be described hereinbelow with reference to Fig. 1 and Fig. 2. The tuner receives TV signals by dividing them into UHF (806 to 470 MHz in the U.S.), VHF high-band (216 to 174 MHz in the U.S.) and VHF low-band (88 to 54 MHz in the U.S.) signals.

The tuner shown in Fig. 1 comprises an input terminal 2 connected to an antenna 1, a first tracking filter 3, a first high-frequency amplifier 6, a second tracking filter 4, a second high-frequency amplifier 7,